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Organische Chemie in Einzeldarstellungen

Herausgegeben von Hellmut Bredereck, Klaus Hafner und Eugen Müller

Die rasch fortschreitende organische Chemie, ständig im Begriff neue Arbeitsgebiete aufzubauen, lebt nicht nur von immer neuen überraschenden experimentellen Resultaten. Es zeichnen sich vielmehr auch sichere Entwicklungslinien ab, sowohl was ihre Grundlagen und ihre Methoden als auch ihre präparativ-stofflichen Erkenntnisse betrifft. Über Einzelbefunde und kurzfristige Übersichten hinausgehend will die Reihe „Organische Chemie in Einzeldarstellungen" solche Entwicklungen aktuell aufzeigen und helfen, ein Fundament künftiger Forschungsarbeit zu schaffen. Die „Rote Reihe", wie diese Serie oft genannt wird, erfreut sich guter Resonanz und internationaler Verbreitung. Bei dem Werk von J. Falbe, „Synthesen mit Kohlenmonoxyd", zum Beispiel folgte auf die deutsche Ausgabe sehr rasch eine erweiterte englischsprachige unter dem Titel „Carbon Monoxide in Organic Synthesis", und auch eine russische Übersetzung ist erschienen. Ähnlich ging es zuvor dem von A. Schönberg verfaßten und heute in deutscher Sprache vergriffenen Werk „Präparative organische Photochemie", das nun überarbeitet und erweitert als „Preparative Organic Photochemistry" in Zusammenarbeit mit G. O. Schenck und O.-A. Neumüller in zweiter Auflage erschienen ist.

Band 14

M. Schlosser: Struktur und Reaktivität polarer Organometalle

Eine Einführung in die Chemie organischer Alkali- und Erdkalimetall-Verbindungen

Von Professor Dr. Manfred Schlosser, Institut de Chimie Organique de l'Université Lausanne.

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„Mit Organometallen ist nichts unmöglich – aber auch nichts voraussagbar", so lautet, auf einen knappen Nenner gebracht, ein verbreitetes Vorurteil.
Damit will der Autor aufräumen. Er zeigt, daß alles mit rechten Dingen zugeht. Da wird zunächst die Struktur organometallischer Verbindungen – im Kristall und in Lösung – unter die Lupe genommen und als Folge des unbefriedigten Koordinationsstrebens des Metalls begreiflich gemacht. Die mangelnde „Sympathie" zwischen den Bindungspartnern Metall und Kohlenstoff vermag auch die vielen eigenartigen Solvationsphänomene und das Streben zur Ionenpaar-Bildung zu erklären. Danach werden ausführlich die sterischen, induktiven und mesomeren Effekte behandelt, die über die Basizität eines Organometalls und somit dessen „chemisches Potential" entscheiden. Darauf baut dann die abschließende, umfassende Diskussion des reaktiven Verhaltens organometallischer Verbindungen auf. Besonders eindrucksvoll ist das Schlußkapitel, worin gezeigt wird, wie detaillierte mechanistische Kenntnisse das Instrumentarium organometallischer Reaktionen vollendet zu beherrschen erlauben.

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